

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-20 (canceled).

21. (new): A method of detaching and collecting an IC tag from a paper sheet to which said IC tag is attached, comprising:

a detachment step of detaching said IC tag from said paper sheet by applying external force to an adhesive surface between said paper sheet and said IC tag; and
a fractionation step of fractionating the detached IC tag from other substances.

22. (new): The method as set forth in claim 21 wherein, in said detachment step, said paper sheet is immersed in an immersion liquid and external force is applied to said adhesive surface by a flow of said immersion liquid.

23. (new): The method as set forth in claim 21, further comprising:

a fragmentation step of immersing in an immersion liquid said paper sheet from which said IC tag was detached in said detachment step, and disintegrating or fragmenting said paper sheet into paper components by a flow of said immersion liquid and dispersing said paper

components in said immersion liquid, said fragmentation step being followed by said fractionation step.

24. (new): The method as set forth in claim 23 wherein, in said fractionation step, a suspension in which said paper components are dispersed by the flow of said immersion liquid is passed through a screen.

25. (new): The method as set forth in claim 22, wherein a pattern of said flow is changed.

26. (new): The method as set forth in claim 21, further comprising:

a cleaning step of cleaning said IC tag detached from said paper sheet to remove paper and/or an adhesive adhering to said IC tag.

27. (new): The method as set forth in claim 21, further comprising:

a preparation step of swelling said paper sheet by causing said paper sheet to hold a swelling liquid in which paper and/or an adhesive is soluble, said preparation step being followed by said detachment step.

28. (new): The method as set forth in claim 26 wherein, in said preparation step and/or said cleaning step, said adhesive adhering to said IC tag is decomposed by an enzyme.

29. (new): The method as set forth in claim 21 wherein, in said fractionation step, said IC tag is removed and collected from the suspension in which the paper components of said paper sheet are dispersed.

30. (new): The method as set forth in claim 29 wherein said suspension is put in a container, said IC tag in said suspension is caused to sink to a bottom of said container, and by supplying a liquid flow containing small bubbles into said container, said bubbles are caused to adhere to said paper components to float them up to a liquid surface of said container.

31. (new): The method as set forth in claim 22 wherein heat is applied to said immersion liquid and/or said swelling liquid.

32. (new): The method as set forth in claim 21 wherein a plurality of the IC tags are successively processed as one bundle in each of said steps.

33. (new): The method as set forth in claim 24 wherein, after collection of said IC tag in said fractionation step, a liquid is squeezed from said suspension and a residual substance of said suspension from which said liquid is squeezed is used as paper material.

34. (new): The method as set forth in claim 33 wherein the same liquid is employed in each of said steps, and after collection of said IC tag in said fractionation step, a liquid is squeezed from said suspension and the squeezed liquid is reused in each of said steps.

35. (new): A system for detaching and collecting an IC tag from a paper sheet to which said IC tag is attached, comprising:

a unit for swelling said paper sheet by causing said paper sheet to hold a swelling liquid in which paper and/or an adhesive is soluble;

a detacher for detaching said IC tag from said paper sheet by applying external force to an adhesive surface between the swollen paper sheet and said IC tag; and

a fractionator for fractionating the detached IC tag from other substances.

36. (new): The system as set forth in claim 35, further comprising:

a cleaner for cleaning said IC tag detached from said paper sheet to remove paper and/or an adhesive adhering to said IC tag.

37. (new): An apparatus for detaching and collecting an IC tag from a paper sheet to which said IC tag is attached, comprising:

a detaching container for storing a liquid;

a solid type screen, which is provided within said detaching container and functions as a filter, for holding said paper sheet to which said IC tag is attached;

an agitator for generating a flow of said liquid within said detaching container by agitating said liquid; and

discharge ports, formed in side and/or bottom surfaces of said detaching container, for discharging paper components, passed through said solid type screen, of the paper components of said paper sheet fragmented within said solid type screen by said flow generated by said agitator.

38. (new): The apparatus as set forth in claim 37, further comprising:

a paper-component processing container for holding a suspension that contains paper components passed through said solid type screen, and separating said suspension into said paper components and a liquid;

a suspension flow path for supplying said suspension from the discharge ports of said detaching container to said paper-component processing container;

a return flow path for returning to said detaching container said liquid separated by said paper-component processing container; and

a pump for circulating said liquid between said detaching container and said paper-component processing container, through said suspension flow path and said return flow path.

39. (new): The apparatus as set forth in claim 37 wherein said agitator comprises an impeller and a drive unit for driving said impeller.

40. The apparatus as set forth in claim 37 wherein

said agitator operates between a first operating state in which a swirl flow of said liquid is generated within said detaching container in a direction of positive rotation and a second operating state in which said swirl flow is generated in a direction of reverse rotation; and

when agitating said liquid, said first operating state and said second operating state are switched in predetermined cycles.